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NCI Thyroid FNA Conference

“Atypia” in Thyroid

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“Atypia”

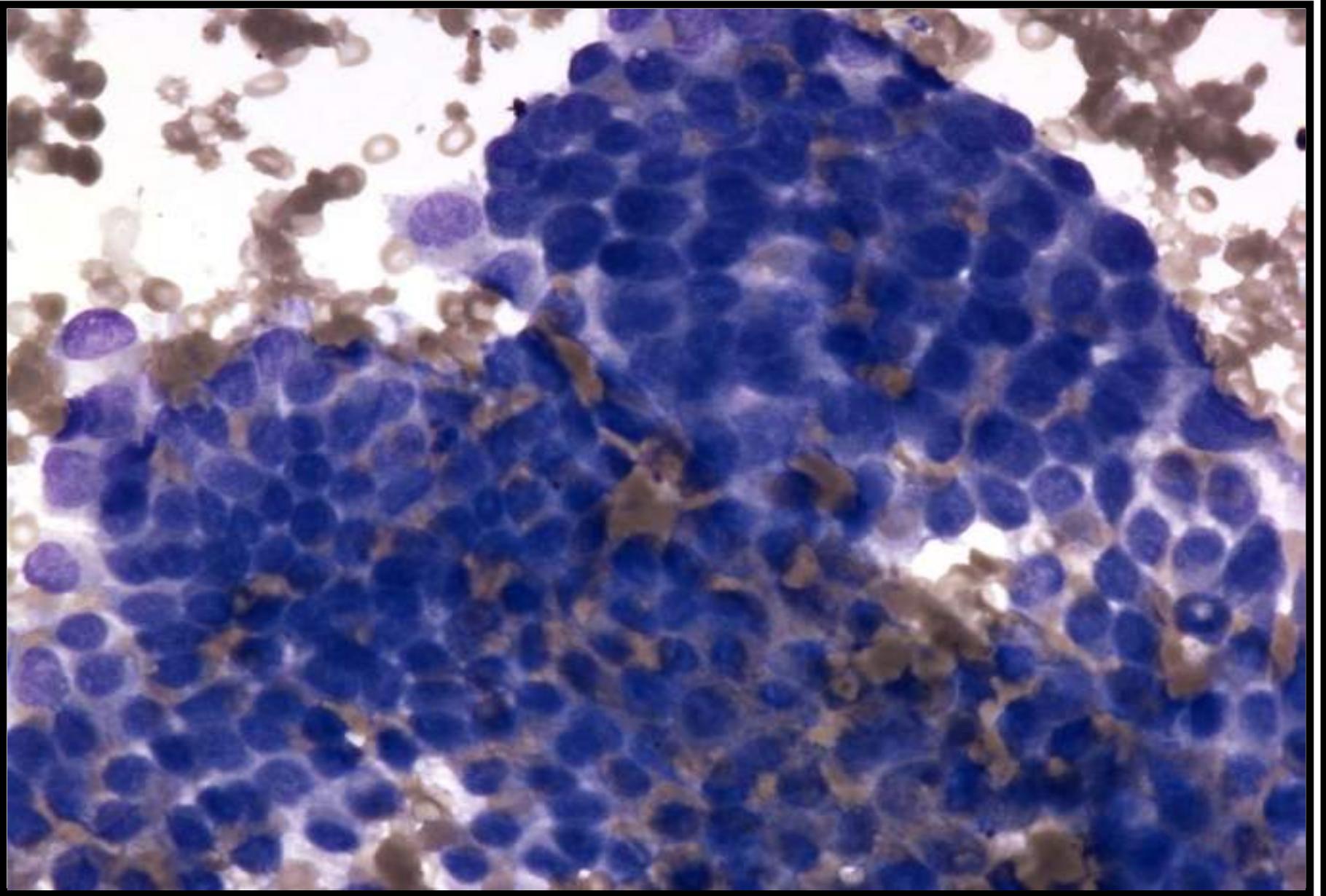
- Architectural

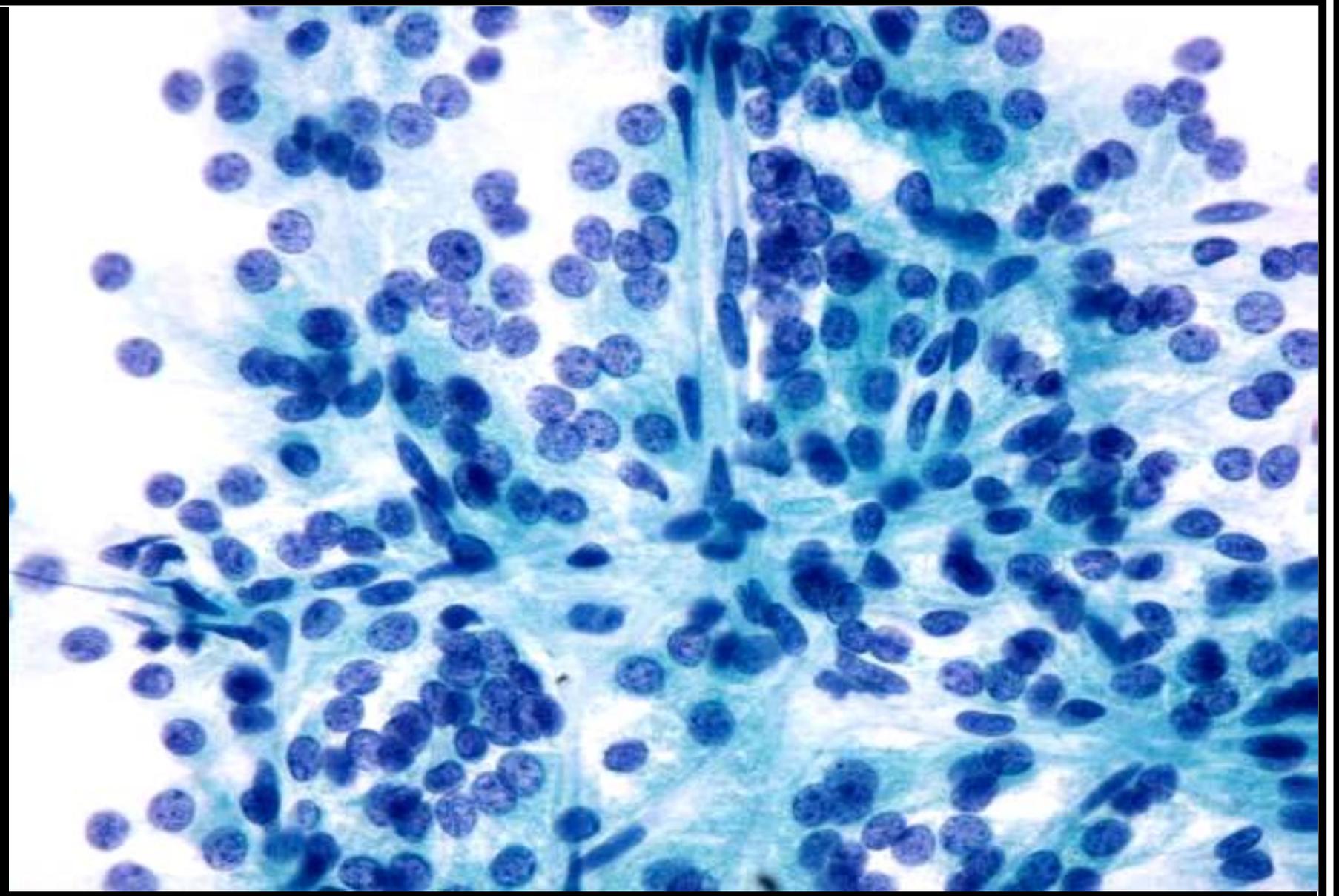
- Papillary
- Follicular
 - Microfollicles
- Solid
- Trabecular

“Atypia”

Architectural

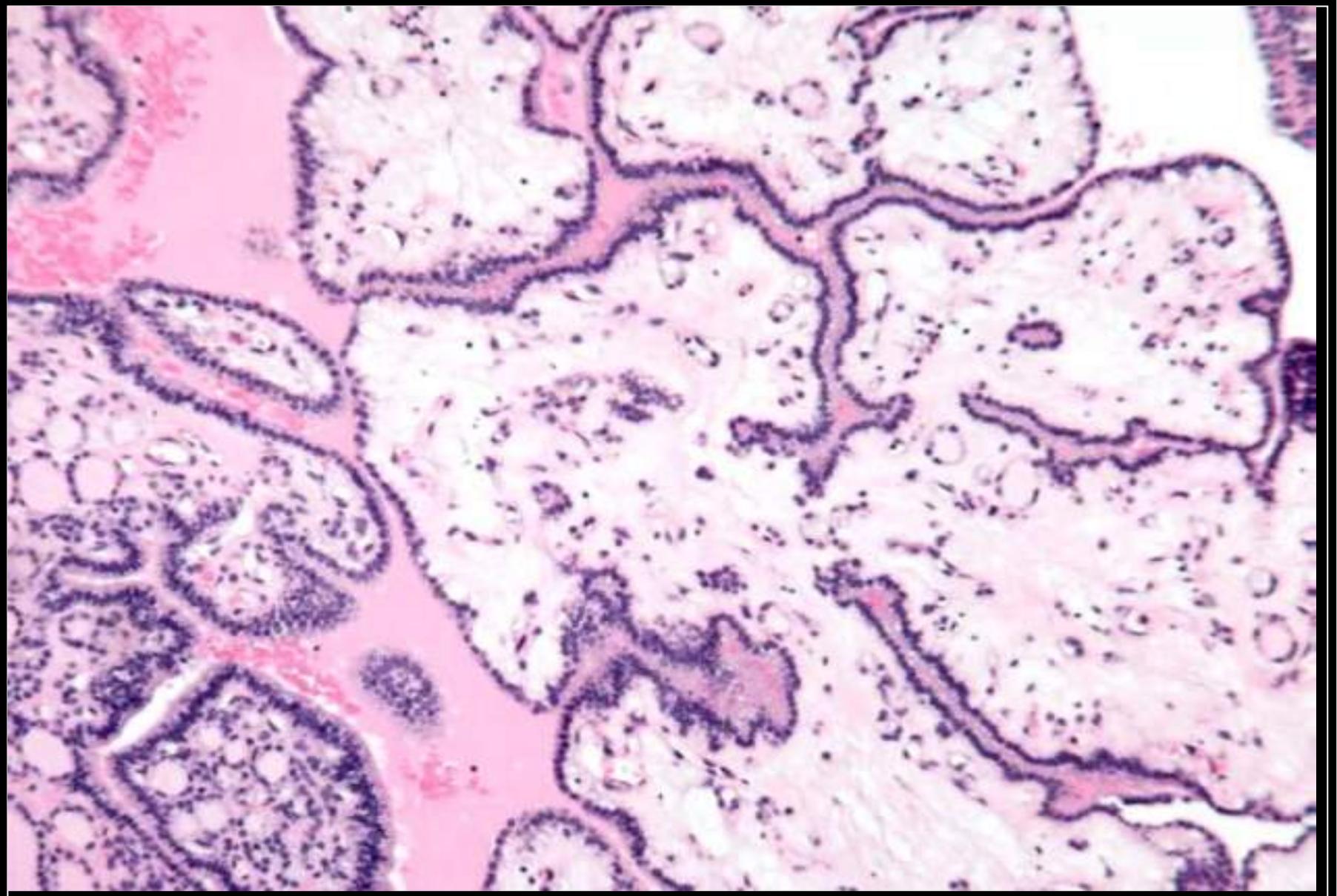
-
- 69-year-old woman with 3 cm complex nodule
 - Euthyroid
 - Ultrasound guided FNA





Cytologic Diagnosis

Suspicious for Papillary Thyroid
Carcinoma



ATYPIA

- Reparative/Regenerative-e.g. gastric ulcer
 - Inflammatory-----e.g. IBD
 - Neoplastic-----e.g. obvious
-
- ENDOCRINE ATYPIA

“Atypia”

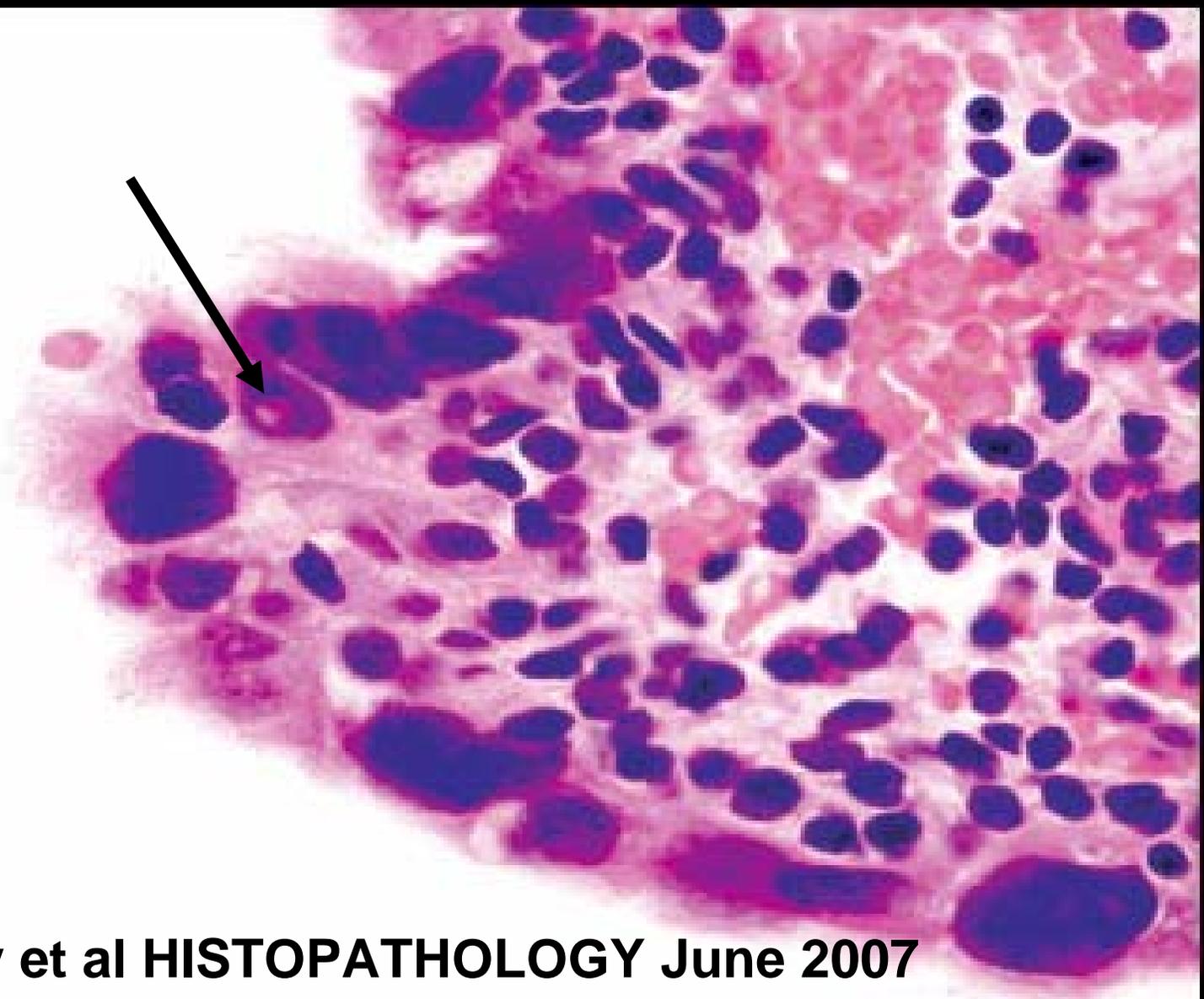
- Cytological atypia
 - Nuclear pleomorphism
 - Nuclear membrane irregularity
 - Nucleoli
 - Other

CYTOLOGICAL ATYPIA

- NUCLEI
 - Enlarged
 - Hyperchromatic
 - Bizarre (shapes, outlines)
 - Smudgy



Endometrium



Feeley et al HISTOPATHOLOGY June 2007



HISTOPATHOLOGY June 2007 ENDOMETRIUM

CYTOLOGICAL ATYPIA

- Examples:
 - Symplastic leiomyoma
 - Bizarre stromal cells in vaginal polyps, nasal polyps, oral polyps

Feeley et al (Histopathology June 2007)

CYTOLOGICAL ATYPIA

- Some Hormonally related (Progestins in uterus)
- Some degenerative
- Some metaplastic
- Many inflammatory

- Feeley 2007

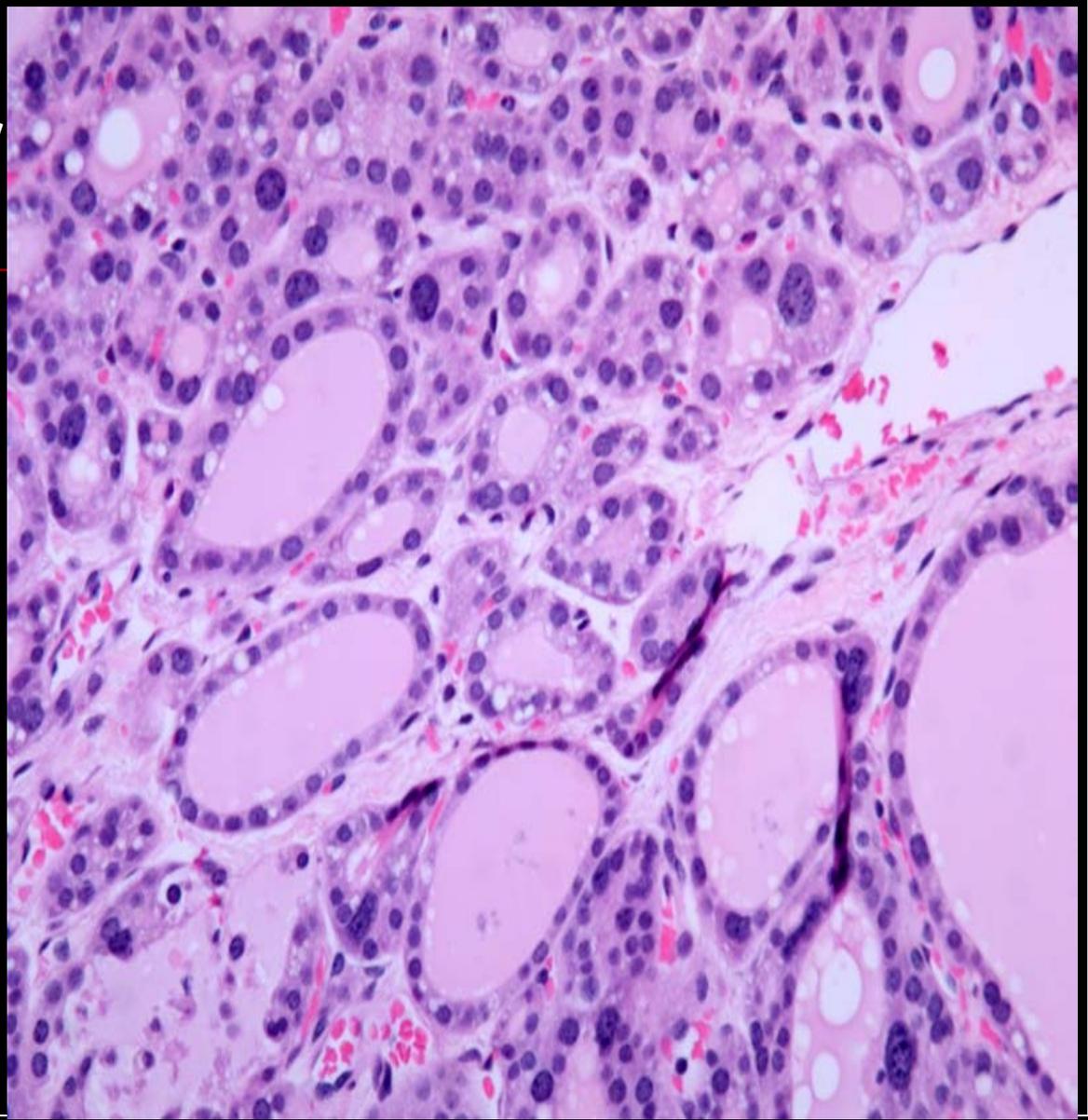
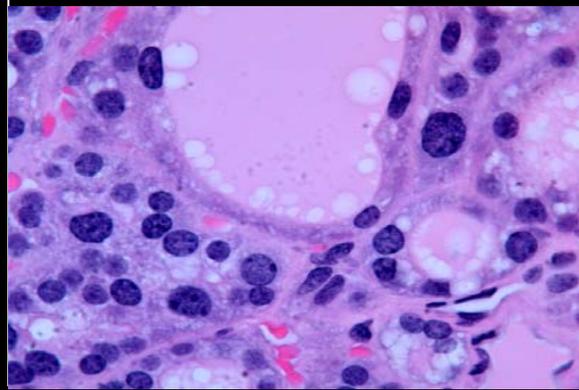
CYTOLOGICAL ATYPIA

- Cells begin to proliferate (stimulus ?
Hormonal)
- Proliferation stops (stuck in S phase of
cycle)
- DNA synthesis continues but mitosis does
not occur
- Nucleomegaly, hyperchromatism

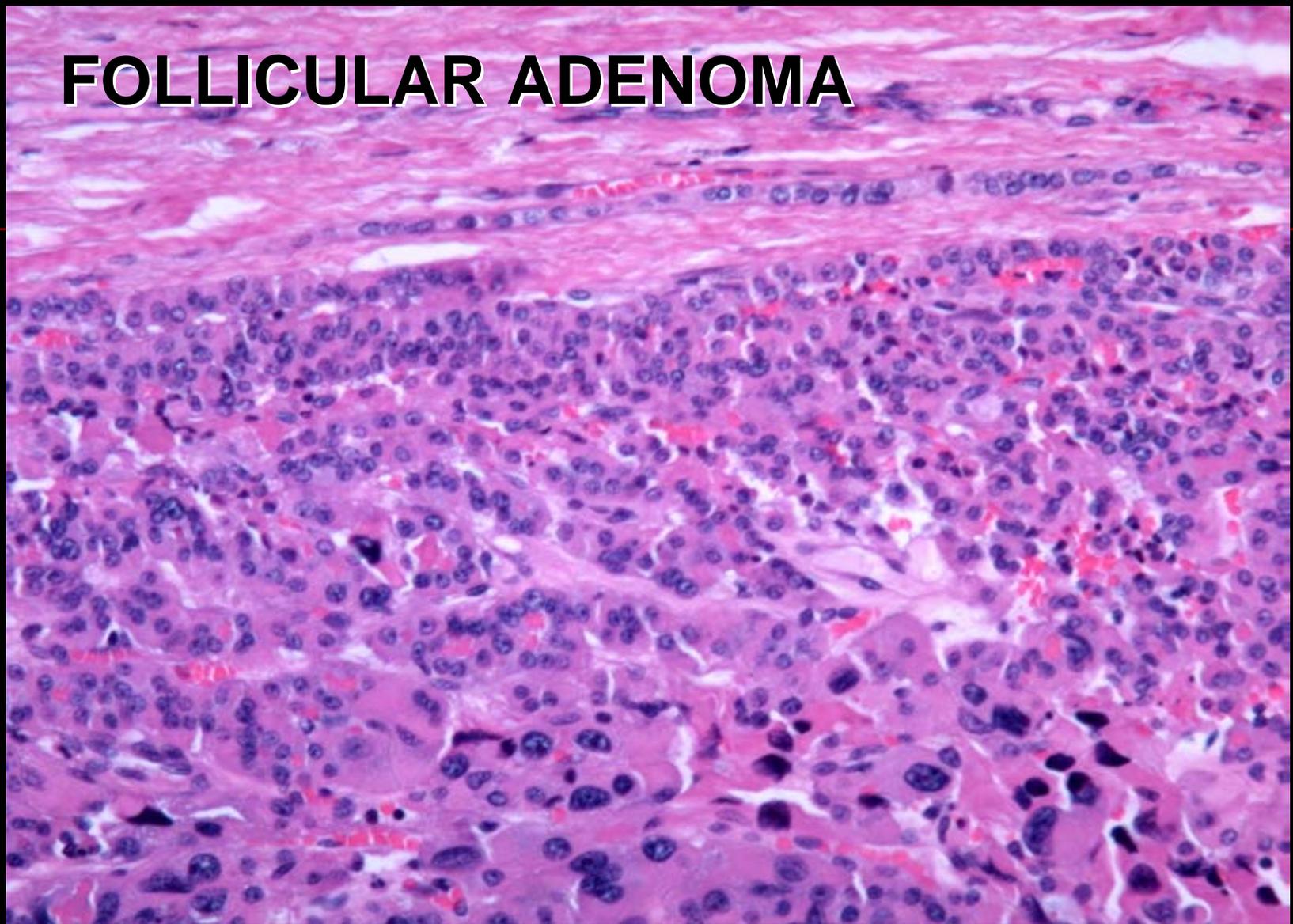
ATYPIA

- **THYROID**
 - **DEGENERATIVE**
 - **HURTHLE CELLS**
 - **DRUG INDUCED**
 - **AUTOIMMUNE**
 - **GENETIC**
 - **NEOPLASTIC**

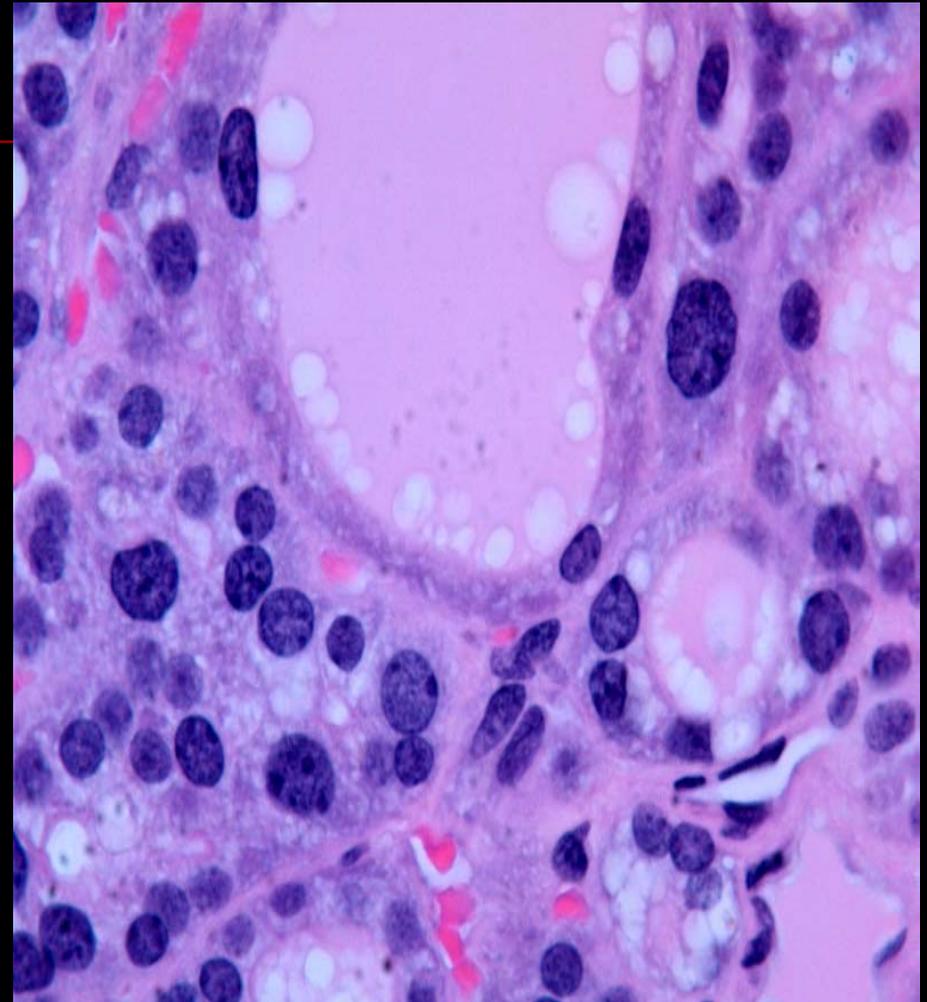
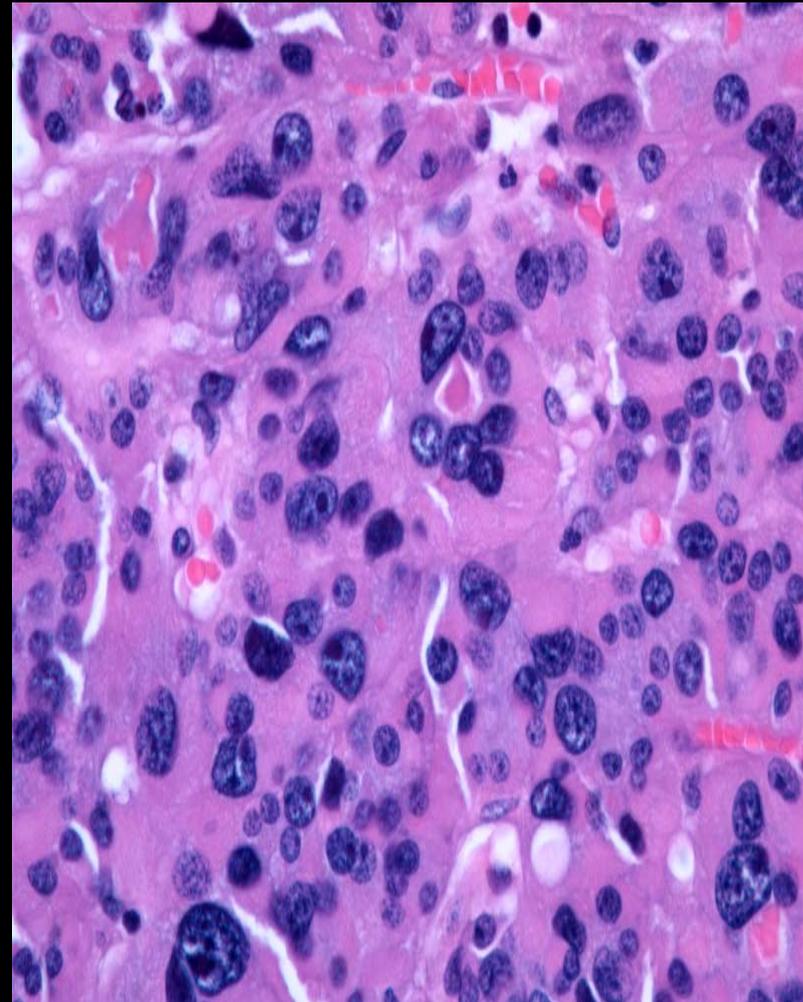
Nodular goiter
64 y o woman
on thyroid
hormone

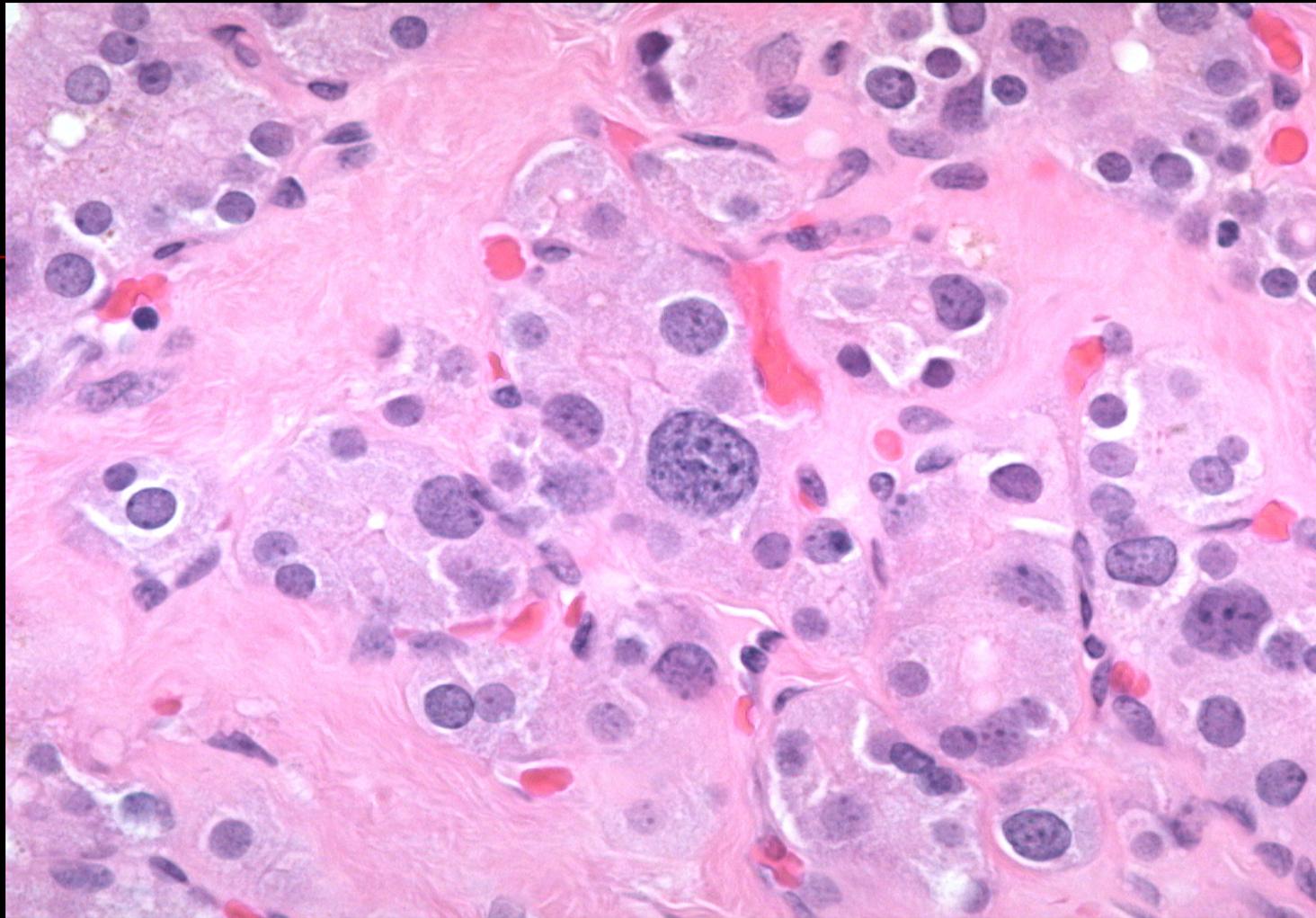


FOLLICULAR ADENOMA

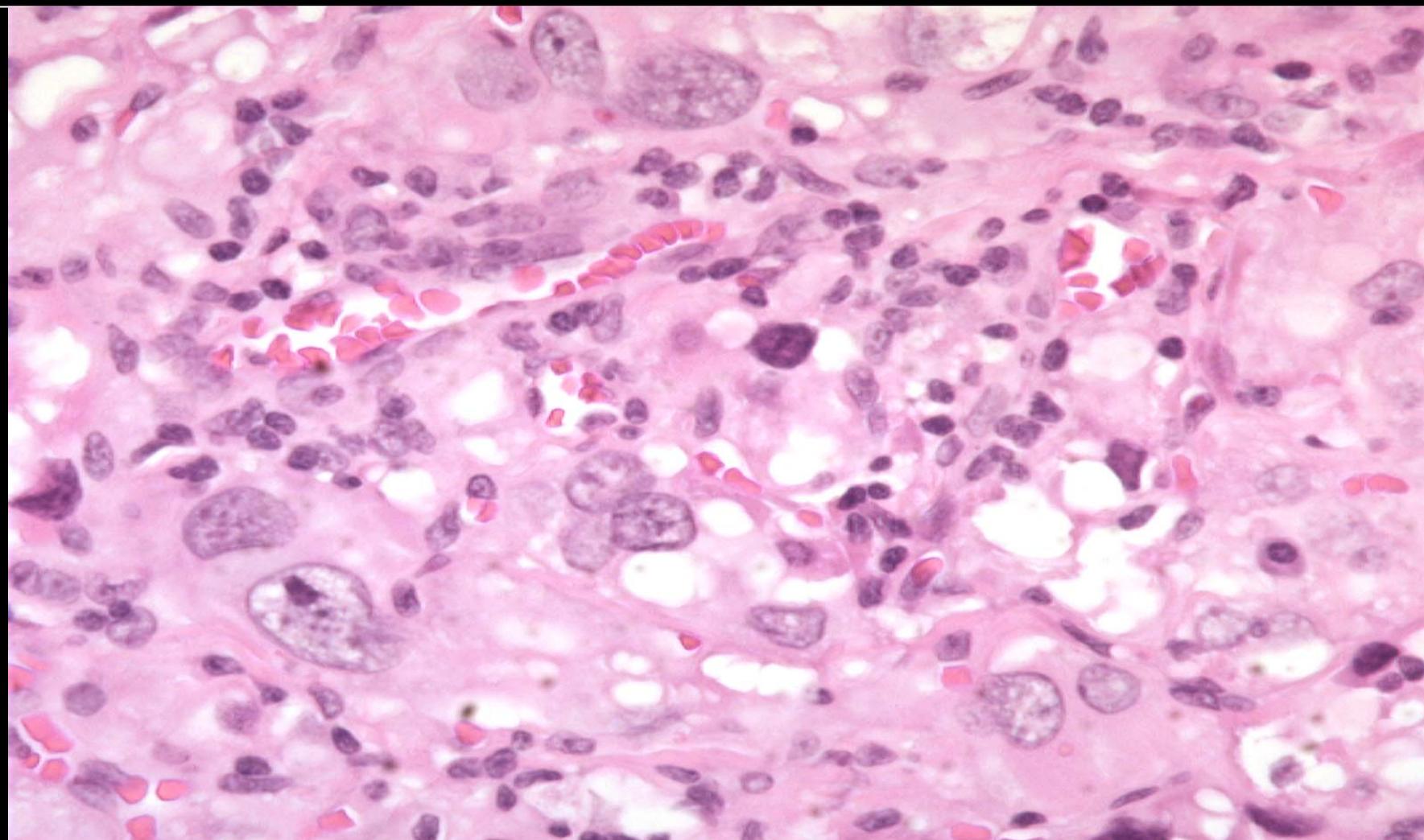


FOCAL AREAS IN ADENOMATOUS NODULES

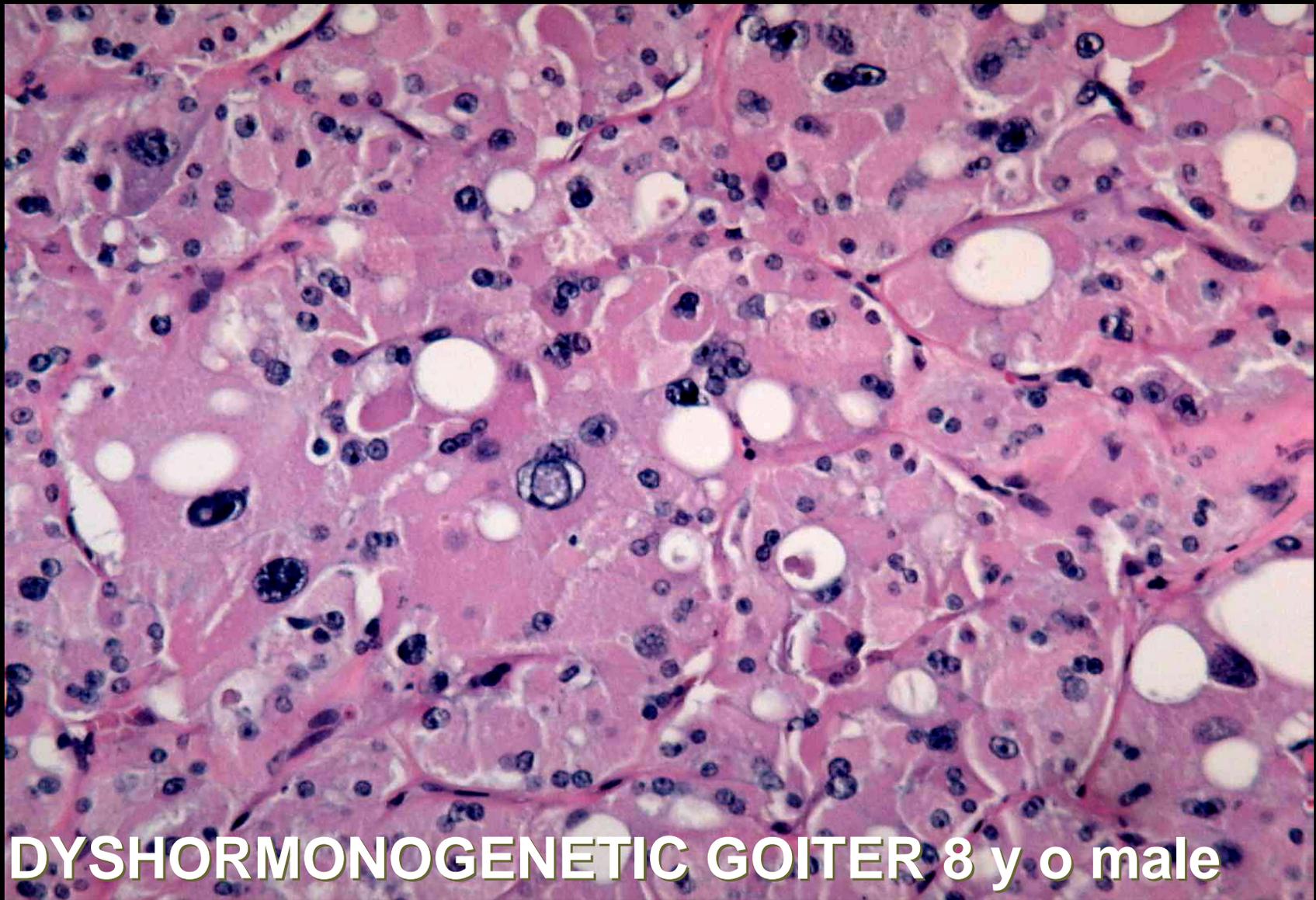




TREATED GRAVES'



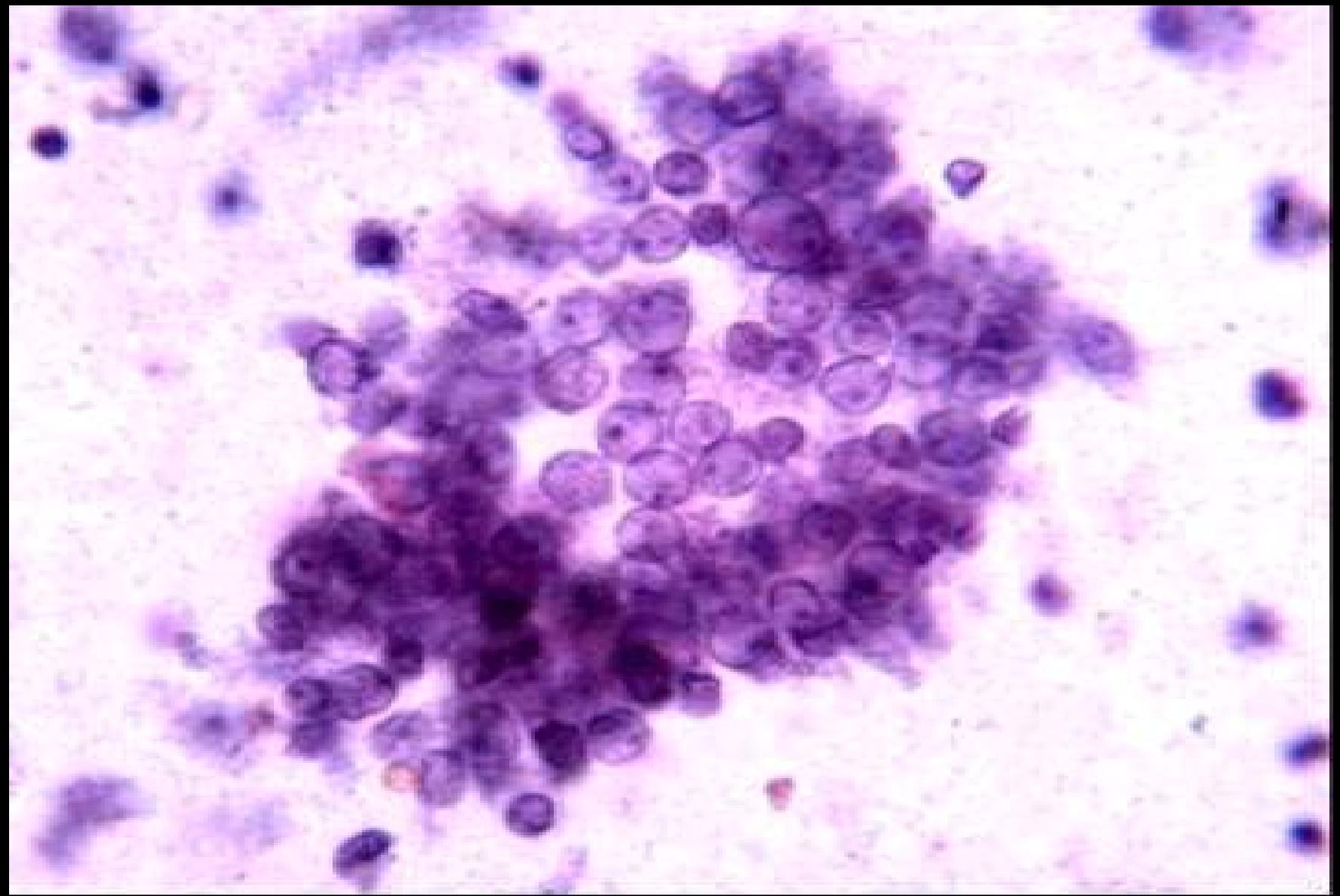
ATROPHIC GLAND POST RAI-GRAVES'

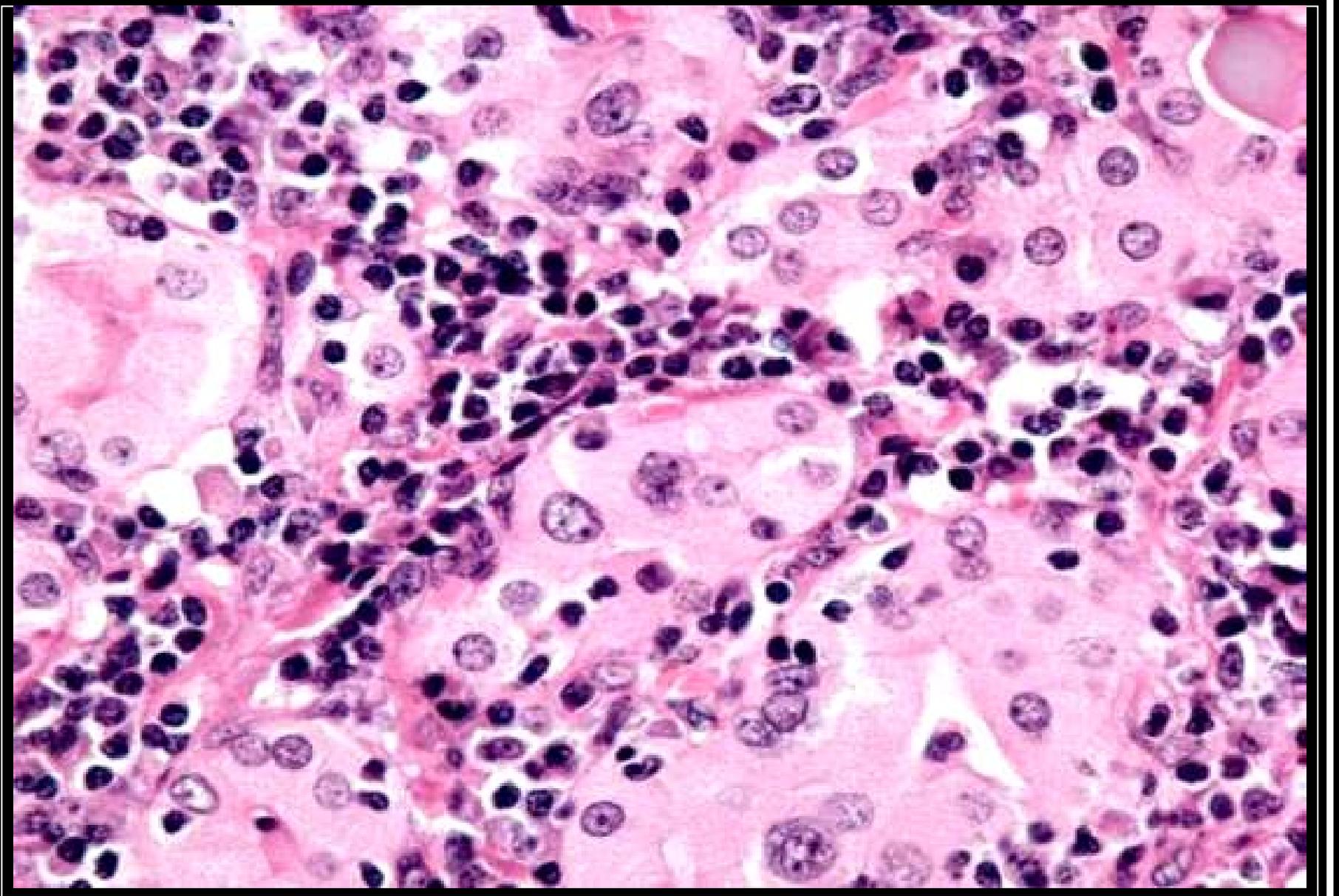


DYSHORMONOGENETIC GOITER 8 y o male

Autoimmune Atypia

- 40-year-old woman with ill-defined left thyroid nodule
- History of lymphocytic thyroiditis
- Ultrasound guided FNA
- FNA diagnosis – Papillary thyroid carcinoma





ATYPIA

■ PARATHYROID

- THE MORE ATYPIA, THE MORE **BENIGN.**
- **(Schantz and Castleman 1970)**
- Although the rare parathyroid carcinoma can have atypia, usually they show blandness and uniformity

ATYPIA

■ **ADRENAL**

- **CORTEX AND MEDULLA**
- **COMMON IN BENIGN LESIONS (AS WELL AS MALIGNANT ONES)**
- **ISOLATED FINDING DOES NOT EQUAL MALIGNANCY**

“Atypia”

- Nuclear

- Pleomorphism ENDOCRINE TYPE
- Suspicious for papillary carcinoma